

REMARKS

Claims 1 and 3-13 remain in the application.

In the Final Office Action, claims 4-10 and 13 were rejected under 35 U.S.C. § 102(b) as obvious over Uddenfeldt et al. (U.S. Patent No. 5,327,576). Claims 1-3 were rejected under § 103(a) as obvious over Uddenfeldt et al. in view of Chin et al (US 6,778,556). Claim 11 was rejected under § 103(a) as obvious over Chung (US 5,706,282) in view of Chin et al (US 6,778,556). Claim 12 was rejected under § 103(a) as obvious over Uddenfeldt et al (US 5,327,576) in view of Chung (5,706,282)

Applicants respectfully traverse. Applicants are not simply overlaying control and dispatch communication on a TDMA cellular system. Claim 1 specifically recites "...the scalable digital vocoder and the scalable channel coder being controlled by a supporting protocol that transmits predetermined digital audio quality and predetermined audio output bit rate information at regular intervals to the digital half-duplex communication device..." Scalability is also claimed in independent claims 5, 9, 10 and 13. Variability is claimed in independent claim 6. None of the references, taken individually or combined, teaches or suggests scalability. As the Examiner concedes on page 5 of the last Office Action, Uddenfeldt teaches bit rates switching between a full rate mode of operation and a half rate mode of operation. Applicants invention scales and thus is not limited to switching between two modes.

As the Examiner also concedes, the Uddenfeldt reference does not teach or suggest a half duplex system. Applicants assert that it would not be obvious or even practical to combine the Uddenfeldt TDMA cellular system with Chin's half duplex system, because to do so would basically be taking the TDMA cellular channel partitioning and overlying dispatch resulting in wasting half of the payload that is not needed in the two-way radio voice channel. Thus,

Uddenfeldt and the other two references are not readily combinable and even if combined do not result in that which is claimed by Applicants' invention.

Claim 1 also recites, as discussed above, that the predetermined digital audio quality and predetermined audio output bit rate information is transmitted by allocating extra bits in a reverse channel. Various aspects of the reverse channel are also claimed in claims 4, 9, 10, 12 and 13. Applicants' channel partitioning provides the most efficient use of the channel for two way dispatch communication. Applicants' invention is directed toward a digital two-way communication system. Typically, in such a system, one unit transmits and one or more units receive. This is in stark contrast to the TDMA cellular telephone system that has a one to one correspondence. The communication path in Applicants' invention can be between a mobile station and a base station or between two mobile stations. Applicants' protocol allows for either case. One unit transmits and the other unit receives. Applicants' reverse channel implementation provides a full packet on the transmitting radio side for transmitting payload (typically voice) and control. The transmitting radio breaks its transmit sequence in a synchronized frame with the receiver for a short time to allow for a reverse channel that contains control information. In Applicants' invention, the reverse channel is used for sending channel quality information back to the payload transmitter. The transmitter can acknowledge in the portion of its transmit frame referred to as control – recited as selective control in claim 11. Since Applicants' reverse channel is used only on demand and more than one receiver can use it on a transmit and retry basis, it is clearly a different type of reverse channel situation than is found on a standard TDMA system. Applicants' invention tailors the digital payload to a single transmitter multiple receiver situation found in two-way voice communication systems. The

unique concept of a small reverse channel for control, as used in the scalable vocoder and scalable channel coder, is of the control uses for this unique reverse channel concept.

Applicants' invention is used to scale and even add redundancy to the channel coder and voice coder in order to have the best quality digital communication between the payload transmitter and receiver(s).

Accordingly, the rejection of independent claims 1, 4, 5, 6, 9, 10, 11 12 and 13 are believed to be overcome. Claims 3, 7, 8 are dependent claims providing further limitations to what are believed to be allowable independent claims and hence are also in condition for allowance.

Accordingly, this application is believed to be in proper form for allowance. An early notice thereof is respectfully requested. Should the Examiner have any comments or suggestions that would expedite the allowance of this application, he is respectfully requested to telephone the undersigned.

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Please charge any additional fees associated with this amendment and credit any overpayments to Deposit Account No. 50-2117.

Respectfully submitted,

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